

Bird observations in Muktar Mountain Forest, eastern Ethiopia: a previously unidentified Important Bird Area

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Observations ornithologiques dans la forêt du Mont Muktar, Éthiopie orientale : une Zone d'Intérêt pour la Conservation des Oiseaux auparavant non identifiée. Des observations ornithologiques ont été réalisées dans la forêt du Mont Muktar, Éthiopie orientale, entre le 13 décembre 2013 et le 2 janvier 2014. En 21 jours de travaux sur le terrain, 81 espèces ont été recensées, dont six espèces d'intérêt pour la conservation, 25 espèces confinées au biome des zones afromontagnardes, deux endémiques éthiopiennes et dix quasi endémiques. Des extensions de l'aire de distribution de plusieurs espèces ont été notées. L'inventaire indique que le site remplit les conditions d'une Zone d'Intérêt pour la Conservation des Oiseaux.

Summary. The results of bird observations made in Muktar Mountain Forest, eastern Ethiopia, between 13 December 2013 and 2 January 2014, are presented. In 21 days of field work, 81 species were recorded, including six species of global conservation concern, 25 Afrotropical highlands biome-restricted species, and two Ethiopian endemics and ten near-endemics. Range extensions were noted for several species. The survey strongly suggests that the site qualifies as a highland biome Important Bird Area.

Ethiopia harbours c.837 bird species, of which 17–18 are endemic to the country (Ash & Atkins 2009). To date, 69 Important Bird Areas (IBAs) have been identified (EWNHS 2001). However, ornithological data for many IBAs are inadequate and some regions remain unexplored (EWNHS 2001, Asefa & Kinahan 2014). In view of the speed with which wildlife habitats are being destroyed, the need for ornithological surveys of poorly known IBAs and previously overlooked potential sites is a matter of urgency (Yalden & Largen 1992, EWNHS 2001).

Here I report bird species recorded in and around Muktar Mountain Forest, eastern Ethiopia, during field work undertaken between 13 December 2013 and 2 January 2014. The objective was to provide a species list and information on the ornithological significance of this poorly known forest.

Study area

Muktar Mountain is in the south-eastern Ethiopian highlands, c.350 km east of Addis Ababa and 25 km east of the nearest town, Chiro (formerly Asebe Teferi) at 08°54'00"–09°02'00"N 40°54'00"–40°59'00"E (Fig. 1; squares 60d and 71b in Ash & Atkins 2009). The forest covers c.3,600 ha and lies at 2,000–3,010 m altitude (Mohammad & Ayana 2012). The wet season usually lasts five months (June–October) and annual rainfall is 600–1,200 mm (Mohammad &

Ayana 2012). The mountain is part of the Wabe–Shebelle river watershed, with at least 40 tributary springs and rivers (Mohammad & Ayana 2012).

Vegetation is dry evergreen montane forest, characterised by *Juniperus procera* and *Podocarpus falcatus* trees at lower elevations, and *Hypericum revolutum*, *Dombeya torrida* and *Nuxia congesta* near the summit (Asefa *et al.* 2014). Patches of open grassland and marshy habitats occur throughout the forest. The vegetation in the immediate environs of the mountain is quite different, especially on the eastern side, where it is characterised by typical lowland species such as *Acacia* spp.

Muktar Mountain Forest hosts considerable populations of the Ethiopian endemic Mountain Nyala *Tragelaphus buxtoni* and the endemic subspecies *menelickii* of Bushbuck *T. scriptus* (Argaw *et al.* 2002, Evangelista *et al.* 2008, Asefa *et al.* 2014). The forest, and adjacent Kuni Mountain (c.5 km west), was designated as the Kuni–Muktar Nyala Sanctuary by the Ethiopian Wildlife Conservation Organization in 1989 (Argaw *et al.* 2002, Evangelista *et al.* 2008). However, due to civil unrest following the fall of the Ethiopian government in 1991, no significant conservation efforts were made and part of the forest was converted to cultivation by local villagers. However, as the region was affected by recurrent drought, the area was not productive and the human population relocated to other parts

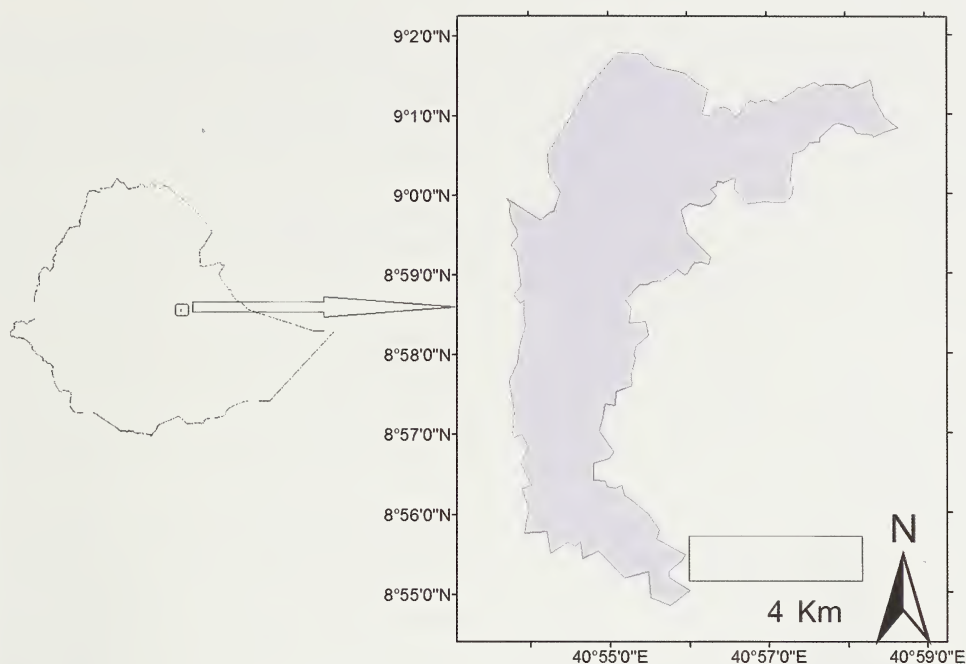


Figure 1. Map of Muktar Mountain Forest and its location within Ethiopia.

Carte de la forêt du Mont Muktar et sa situation en Éthiopie.

of the country in the early 2000s (Evangelista *et al.* 2008). Subsequently, re-demarcation of the boundary was undertaken by the Oromia Forestry and Wildlife Department. Management of the forest currently falls under the auspices of the Oromia Regional Forest and Wildlife Enterprise (Mohammad & Ayana 2012).

Although the forest is at present free of settlements, encroachment is a major potential threat and mainly occurs on flat and gently sloping areas all around its boundaries, but is steadily moving upslope (Asefa *et al.* 2014). Tree-cutting for construction and fuel was also frequently witnessed during the field work. Livestock grazing in the forest is relatively infrequent, although grass harvesting for cattle is common. The latter practice is thought to be advantageous to wildlife as it decreases disturbance caused by livestock (Evangelista *et al.* 2008, Asefa *et al.* 2014).

Methods

Birds were recorded along four 4–5 km (mean = *c.*4.5 km) parallel line transects, systematically selected to sample all major habitats along altitudinal gradients. Transects were 200–250 m apart and were visited on different days. All bird

species seen or heard were recorded as present, irrespective of their distance from transects. As the primary objective of the study was to record the species present in the area, quantitative data, such as the number of individuals or the frequency of occurrence along each transect, were not collected. Birds were identified using binoculars and a field guide (Redman *et al.* 2009). Each transect was visited twice; thus, *c.*36 km were covered. The surveys were conducted early in the morning, 06.30–09.30 hrs, and in late afternoon, 15.00–17.30 hrs. In addition, birds observed opportunistically in the forest and surrounding agricultural areas were also noted.

As a broad guide to a species' local abundance, relative frequency of occurrence was calculated using a simple formula: $(T_i/T_n) \times 100$; where, T_i = number of transects along which a species was recorded, and T_n = the total number of transects surveyed. Species were then classified as common (observed along at least six, or 75%, of eight transects), frequent (observed on 50–74% of transects), uncommon (25–49%) or rare (<25%). Relative frequency of seven species recorded outside the survey period was estimated subjectively based on their frequency during the

21 days of field work. Thus, a species recorded on at least 16 (75%) days was classified as common, on 11–15 (50–74%) days as frequent, etc. Species were also assigned to one of four major habitats (cf. Redman *et al.* 2009): (1) open-habitat species (i.e. principally occurring in cultivation and grassland), (2) shrubland species (shrubby areas and forest edge), (3) woodland species (wooded savanna and farmland with scattered trees), and (4) forest species (dense woodland and closed forest).

Results

In total, 81 bird species belonging to 36 families were observed; these are listed in Appendix 1, with their relative frequency, status, biome affinities and broad habitat requirements.

Six of the 31 species of conservation concern known from Ethiopia (BirdLife International 2014) were observed, including four that are Endangered (Egyptian Vulture *Neophron percnopterus*, Hooded Vulture *Necrosyrtes monachus*, White-headed Vulture *Trigonoceps occipitalis* and White-backed Vulture *Gyps africanus*), one Vulnerable (Pallid Harrier *Circus macrourus*) and one Near Threatened (Rouget's Rail *Rougetius rougetii*). Twenty-five of the 49 species of the Afrotropical highlands biome-restricted species in Ethiopia (EWNHS 2001) were recorded, as well as eight migratory species (Dowsett *et al.* 2014). Two Ethiopian endemics—Yellow-fronted Parrot *Poicephalus flavifrons* and Abyssinian Catbird *Parophasma galinieri*—and ten near-endemics (nine shared with Eritrea, and one, Chestnut-naped Francolin *Francolinus castaneicollis*, with Somalia: Redman *et al.* 2009) were found. Approximately half of the species were classified as predominantly forest-specialist (26 species, c.32%) and woodland species (14, c.17%), whilst the remainder constituted open-habitat (29 species, or 36%) and shrubland species (12 species, 15%). Thirty-five (or 43%) were estimated to be common to frequent; rarely observed species (those with only one or two records) represented c.27% of the total.

The present records extend the known distribution of several species (Ash & Atkins 2009), including extensions to the east of the central Rift Valley for some that are known from adjacent areas west of the Rift (e.g. Rufous-breasted Sparrowhawk *Accipiter rufiventris*, Long-legged Buzzard *Buteo rufinus*, Rouget's

Rail *Rougetius rougetii*, Tambourine Dove *Turtur tympanistria*, Yellow-fronted Parrot *Poicephalus flavifrons*, Yellow Bishop *Euplectes capensis* and Abyssinian Crimsonwing *Cryptospiza salvadorii*). Details for two out-of-range species are as follows.

D'Arnaud's Barbet *Trachyphonus darnaudii*.—A pair was observed foraging in a low bush (c.3 m tall) in farmland c.2 km west of the forest. They had olive-green upperparts spotted with white, a pale yellow neck, face, chin and breast spotted with black, a pinkish bill, and a rufous vent. The two birds differed in the colour of the crown, black in one and yellowish with black streaks in the other. This is the species' northernmost record.

Somali Starling *Onychognathus blythii*.—Pairs were observed at close range twice adjacent to the forest, once perched on branches of a dead tree in farmland and the other time in flight. They were identified by their strongly graduated tails and the female's whitish head (female Red-winged *Onychognathus morio* and Slender-billed Starlings *O. tenuirostris* have the head grey, and Red-winged's tail is not particularly graduated: Redman *et al.* 2009).

Discussion

Given the short study period and the fact that it encompassed only the dry season, this report undoubtedly under-estimates the number of species that occur. Similarly, estimations of relative frequencies should be viewed only as an approximation. This is particularly true as the study did not record the number of individuals or the frequency of observation of each species along each transect, which could have been used to derive abundance estimations. Despite such limitations, the study revealed that Muktar Mountain Forest can be considered an IBA on the basis of the presence of a significant number of globally threatened and highlands biome-restricted species.

The most serious threats to the forest are the expansion of settlements and agriculture around its borders, and tree cutting for fuel and construction purposes (Asefa *et al.* 2014). Therefore, conservation initiatives to mitigate these threats should be developed.

In addition to its ornithological significance, the forest is one of only three remaining sites in the south-eastern Ethiopian highlands where

Mountain Nyala occurs (the others being the Arsi and Bale Mountains). Habitat modification due to expanding human settlements, cultivation, livestock grazing and illegal poaching are major threats to the survival of the species, which has an estimated total population of c.3,500–4,000 individuals and is currently classified as Endangered (Evangelista *et al.* 2008, IUCN 2013). Furthermore, forest provides ecosystem services to the surrounding local community. Indeed, the large number of springs and streams emanating from the mountain are the only perennial water source for >1 million people and their livestock. Most of these streams are used for traditional irrigation (Mohammad & Ayana 2012, Asefa *et al.* 2014). Given the region's propensity to drought and in the face of alarming environmental changes occurring in the Ethiopian highlands (CSE 1997, EWNHS 2001), the future livelihoods of these people will rely solely on the persistence of proper ecological processes in this forest.

In conclusion, although small in size, the biological and ecological values of Muktar Mountain Forest are considerable. As such, in addition to considering designating it as an IBA, legal status as a formally protected area has been suggested (Asefa *et al.* 2012).

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Appendix 1. Bird species recorded in Muktar Mountain Forest, eastern Ethiopia, 13 December 2013–2 January 2014.

Sequence and taxonomy follow Dowsett *et al.* (2014).

Relative frequency: c = common; f = frequent; u = uncommon; r = rare.

Status (Redman *et al.* 2009, Dowsett *et al.* 2014): R = Resident; PM = Palearctic migrant; E = Endemic; NE = Near endemic.

IUCN Red List category (BirdLife International 2014): EN = Endangered; VU = Vulnerable; NT = Near Threatened.

Biome: AH = Restricted to the Afrotropical highlands biome (EWNHS 2001).

Habitat: FR = forest; WL = woodland; SHL = shrubland; OH = open habitat.

* Species recorded outside the transect surveys.

Annexe 1. Espèces d'oiseaux recensées dans la forêt du Mont Muktar, Éthiopie orientale, entre le 13 décembre 2013 et le 2 janvier 2014.

L'ordre et la taxonomie suivent Dowsett *et al.* (2014).

Fréquence relative : c = commun ; f = fréquent ; u = peu commun ; r = rare.

Statut (Redman *et al.* 2009, Dowsett *et al.* 2014) : R = Résident ; PM = Migrateur paléarctique ; E = Endémique ; NE = Quasi endémique.

Catégorie de la Liste Rouge UICN (BirdLife International 2014) : EN = Menacé d'extinction ; VU = Vulnérable ; NT = Quasi menacé.

Biome : AH = Confiné au biome des zones afromontagnardes (EWNHS 2001).

Habitat : FR = forêt dense ; WL = forêt claire ; SHL = formation arbustive ; OH = milieu ouvert.

* Espèce enregistrée en dehors des inventaires des transects.

English name	Scientific name	Relative frequency	Status	IUCN	Biome	Habitat
THRESKIORNITHIDAE						
Wattled Ibis	<i>Bostrychia carunculata</i>	f	R, NE		AH	OH
*Sacred Ibis	<i>Threskiornis aethiopicus</i>	r	R			OH
ACCIPITRIDAE						
Black Kite	<i>Milvus migrans</i>	u	R			OH
Bearded Vulture	<i>Gypaetus barbatus</i>	r	R			OH
Egyptian Vulture	<i>Neophron percnopterus</i>	r	R	EN		OH
Hooded Vulture	<i>Necrosyrtes monachus</i>	f	R	EN		OH
White-backed Vulture	<i>Gyps africanus</i>	c	R	EN		WL
White-headed Vulture	<i>Trigonoceps occipitalis</i>	u	R	EN		WL
African Harrier Hawk	<i>Polyboroides typus</i>	u	PM			WL
*Pallid Harrier	<i>Circus macrourus</i>	r	R	VU		OH
Western Marsh Harrier	<i>Circus aeruginosus</i>	r	PM			OH
African Goshawk	<i>Accipiter tachiro</i>	u	R			FR
Little Sparrowhawk	<i>Accipiter minullus</i>	u	R			FR
Rufous-breasted Sparrowhawk	<i>Accipiter rufigentris</i>	u	R			FR
Long-legged Buzzard	<i>Buteo rufinus</i>	r	PM			OH
Augur Buzzard	<i>Buteo augur</i>	c	R			OH
Tawny Eagle	<i>Aquila rapax</i>	f	R			OH
Verreaux's Eagle	<i>Aquila verreauxii</i>	r	R			OH
PHASIANIDAE						
Chestnut-naped Francolin	<i>Francolinus castaneicollis</i>	f	R, NE		AH	SHL
RALLIDAE						
Rouget's Rail	<i>Rougetius rougetii</i>	r	R, NE	NT	AH	SHL
COLUMBIDAE						
Tambourine Dove	<i>Turtur tympanistria</i>	r	R			FR
African Olive Pigeon	<i>Columba arquatrix</i>	u	R			FR
*Speckled Pigeon	<i>Columba guinea</i>	u	R			OH
Red-eyed Dove	<i>Streptopelia semitorquata</i>	c	R			FR
Dusky Turtle Dove	<i>Streptopelia lugens</i>	c	R		AH	WL
PSITTACIDAE						
Yellow-fronted Parrot	<i>Poicephalus flavifrons</i>	u	R, E			FR
Black-winged Lovebird	<i>Agapornis taranta</i>	r	R, NE		AH	FR
MUSOPHAGIDAE						
White-cheeked Turaco	<i>Tauraco leucotis</i>	u	R, NE		AH	FR
CAPRIMULGIDAE						
Abyssinian Nightjar	<i>Caprimulgus poliocephalus</i>	r	R		AH	WL
COLIIDAE						
Speckled Mousebird	<i>Colius striatus</i>	u	R			FR

English name	Scientific name	Relative frequency	Status	IUCN	Biome	Habitat
UPUPIDAE						
Hoopoe	<i>Upupa epops</i>	u	PM			WL
BUCEROTIDAE						
Hemprich's Hornbill	<i>Tockus hemprichii</i>	r	R			WL
CAPITONIDAE						
Yellow-fronted Tinkerbird	<i>Pogoniulus chrysoconus</i>	r	R			FR
D'Arnaud's Barbet	<i>Trachyphonus darnaudii</i>	r	R			WL
PICIDAE						
Red-throated Wryneck	<i>Jynx ruficollis</i>	r	R			WL
Abyssinian Woodpecker	<i>Dendropicus abyssinicus</i>	f	R, NE		AH	FR
ALAUDIDAE						
Thekla Lark	<i>Galerida theklae</i>	u	R			OH
HIRUNDINIDAE						
Plain Martin	<i>Riparia paludicola</i>	f	R			OH
MOTACILLIDAE						
*Red-throated Pipit	<i>Anthus cervinus</i>	u	PM			OH
PYCNONOTIDAE						
Common Bulbul	<i>Pycnonotus barbatus</i>	c	R			FR
TURDIDAE						
Rüppell's Robin Chat	<i>Cossypha semirufa</i>	c	R		AH	FR
Moorland Chat	<i>Cercomela sordida</i>	f	R		AH	OH
White-winged Cliff Chat	<i>Thamnodaea semirufa</i>	r	R, NE		AH	OH
Pied Wheatear	<i>Oenanthe pleschanka</i>	r	PM			OH
Common Stonechat	<i>Saxicola torquatus</i>	u	PM			OH
Groundscraper Thrush	<i>Psophocichla litsitsirupa</i>	f	R			OH
Olive Thrush	<i>Turdus olivaceus</i>	c	R			FR
SYLVIDAE						
Cinnamon Bracken Warbler	<i>Bradypterus cinnamomeus</i>	c	R			SHL
Common Chiffchaff	<i>Phylloscopus collybita</i>	c	PM			FR
Brown Woodland Warbler	<i>Phylloscopus umbrovirens</i>	c	R		AH	FR
CISTICOLIDAE						
Winding Cisticola	<i>Cisticola galactotes</i>	f	R			SHL
Tawny-flanked Prinia	<i>Prinia subflava</i>	c	R			SHL
MUSCICAPIDAE						
Abyssinian Slaty Flycatcher	<i>Melaenornis chocolatinus</i>	c	R, NE			FR
African Dusky Flycatcher	<i>Muscicapa adusta</i>	f	R			FR
MONARCHIDAE						
African Paradise Flycatcher	<i>Terpsiphone viridis</i>	u	R			FR
TIMALIIDAE						
White-rumped Babbler	<i>Turdoides leucopygia</i>	c	R			WL
Abyssinian Catbird	<i>Parophasma galinieri</i>	c	R, E		AH	FR
PARIDAE						
White-backed Black Tit	<i>Parus leuconotus</i>	c	R, NE		AH	FR
NECTARINIIDAE						
Tacazze Sunbird	<i>Nectarinia tacazze</i>	c	R		AH	WL
ZOSTEROPIDAE						
Montane White-eye	<i>Zosterops poliogastrus</i>	f	R		AH	FR
LANIIDAE						
Common Fiscal	<i>Lanius collaris</i>	u	R		AH	WL
MALACONOTIDAE						
Tropical Boubou	<i>Laniarius aethiopicus</i>	c	R			FR
ORIOLIDAE						
Abyssinian Black-headed Oriole	<i>Oriolus monacha</i>	f	R, NE		AH	FR

English name	Scientific name	Relative frequency	Status	IUCN	Biome	Habitat
CORVIDAE						
*Cape Crow	<i>Corvus capensis</i>	u	R			OH
*Pied Crow	<i>Corvus albus</i>	u	R			OH
Fan-tailed Raven	<i>Corvus rhipidurus</i>	u	R			OH
Thick-billed Raven	<i>Corvus crassirostris</i>	f	R, NE		AH	OH
STURNIDAE						
Somali Starling	<i>Onychognathus blythii</i>	r	R			OH
BUPHAGIDAE						
*Red-billed Oxpecker	<i>Buphagus erythrorhynchus</i>	u	R			OH
PASSERIDAE						
Swainson's Sparrow	<i>Passer swainsonii</i>	f	R		AH	WL
PLOCEIDAE						
Baglafecht Weaver	<i>Ploceus baglafecht</i>	f	R		AH	SHL
Yellow Bishop	<i>Euplectes capensis</i>	u	R			SHL
ESTRILIDIDAE						
Abyssinian Crimsonwing	<i>Cryptospiza salvadorii</i>	u	R		AH	FR
Yellow-bellied Waxbill	<i>Estrilda quartinia</i>	f	R			SHL
Red-checked Cordonbleu	<i>Uraeginthus bengalus</i>	r	R			SHL
Red-billed Firefinch	<i>Lagonosticta senegala</i>	u	R			OH
Bronze Mannikin	<i>Spermestes cucullata</i>	r	R			OH
FRINGILLIDAE						
African Citril	<i>Serinus citrinelloides</i>	u	R		AH	WL
Streaky Seedeater	<i>Serinus striolatus</i>	f	R		AH	SHL
Brown-rumped Seedeater	<i>Serinus tristriatus</i>	f	R		AH	SHL
Cape Canary	<i>Serinus canicollis</i>	u	R			SHL